

REMARKS

Claims 1-7 and 27-35 are all the claims pending in the application. By this Amendment, Applicant amends claims 4, 27, and 28 to further clarify the claimed invention.

I. Summary of the Office Action

The Examiner withdrew the previous grounds of rejection. The Examiner, however, found new grounds for rejecting the claims. Specifically, claims 5-7 stand rejected under 35 U.S.C. § 101, and claims 1-7 and 27-35 are rejected under 35 U.S.C. § 112, first paragraph, 35 U.S.C. § 112, second paragraph, and 35 U.S.C. §103(a).

II. Claim Rejections under 35 U.S.C. § 101

Claims 5-7 are rejected under 35 U.S.C. § 101 as being allegedly directed to non-statutory subject matter. Specifically, the Examiner alleges that a control unit is a non-statutory subject matter because allegedly the control unit is only software (see page 2 of the Office Action). Applicant respectfully disagrees. Applicant respectfully submits that the control unit in claim 5 is a combination of software and hardware at least because it includes a transmitting device and a computer-readable medium to store a program.

In particular, the specification discloses that an exemplary control unit 1 is coupled to an automation system 4. The control unit 1 is, for example, a stored-program control unit, a numerical control unit or, a robot control unit (*see* page 6, lines 3 to 12 of the specification). That is, an exemplary control unit stores a program *i.e.*, it may be a stored-program control unit. In other words, the control unit will include hardware such as computer-readable medium to

store the program. Other exemplary control units are numeric control units and robot control units, which are known to be a combination of hardware and software.

Furthermore, the specification discloses that the control unit 1 has a transmitting device 21 operable to generate and transmit a message 3, for example, in the form of an e-mail message via internet. This message 3 is transmitted via a transmission system 9 to a recipient 2. The recipient 2 can be any device capable of receiving the transmitted message 3. For example, the recipient 2 can be a computer (wireless or wireline), a cell-phone, a pager, or any other similar device (*see* page 6, lines 3 to 12 of the specification). In other words, an exemplary control unit 1 has a transmitting device 21 that transmits a message via internet. To one of ordinary skill in the art, a unit with a device would suggest a unit comprising of software and hardware.

It will be appreciated that the following remarks relate to the invention in a general sense, the remarks are not necessarily limitative of any of the other claims and are intended only to help the Examiner better understand the statutory subject matter defined by claim 5, mentioned above.

In short, Applicant respectfully submits that the control unit set forth in claim 5 defines a combination of software and hardware. Accordingly, Applicant respectfully requests the Examiner to withdraw this rejection of claims 5-7 under 35 U.S.C. § 101.

III. Claim Rejections under 35 U.S.C. § 112

Claims 1-7 and 27-35 are rejected under 35 U.S.C. § 112, first and second paragraphs. Specifically, the Examiner contends that the specification, while disclosing the operations of automation system, does not clearly provide an antecedent basis for what it is (*see* page 3 of the

Office Action). Applicant has further amended the specification to explicitly set forth an exemplary description of an automation system.

That is, an automation system has a particular meaning in the art pertaining to a complex system in the field of manufacturing or process automation that includes automation devices for production and process controls, such as motors, sensors, actuators, etc. Automation is a computerized control of a manufacturing process. *See e.g.*, U.S. Patent No. 6,263,487 to Stripf et al. As shown in Figure 1 of Stripf, the automation system is used in a manufacturing environment to control an industrial process (see also, col. 1, lines 25-27, that further describes an automation system). In other words, the automation system refers to an automated production and/or assembling of manufactured products which uses equipment such as valves and is controlled by a numeric controller, *see e.g.*, Figs. 1 and 2 of the above-described application and the corresponding exemplary embodiments set forth in the specification.

In short, Applicant respectfully requests the Examiner to withdraw these rejections of claims 1-7 and 27-35 under 35 U.S.C. § 112, first and second paragraphs.

IV. Claim Rejection under 35 U.S.C. § 103(a)

Claims 1-7 and 27-35 are rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,715,393 to Naugle (hereinafter “Naugle”) in view of U.S. Patent No. 6,003,070 to Frantz (hereinafter “Frantz”). Applicant respectfully traverses these grounds of rejection in view of the following comments.

Of the rejected claims, only claims 1, 5, 8, and 33 are independent. These independent claims, among a number of unique features, recite: “wherein the control unit monitors and controls operation of the automation system and in response to a fault detected in the automation system, generates the e-mail message, and wherein the automation system comprises equipment of a production or a manufacturing process.” The Examiner acknowledges that Naugle does not disclose or suggest a) a control unit that monitors and controls operation of the automation system, b) a control unit that generates an email message in response to a fault detected in the automaton system, and c) the automation system comprising equipment of production or a manufacturing process (*see* page 4 of the Office Action). The Examiner, however, contends that Frantz cures the above-identified deficiencies of Naugle (*see* page 5 of the Office Action). Applicant respectfully disagrees.

For example, in the illustrative, non-limiting embodiment, it is disclosed that the control unit controls the operations of the automation system, which is a system of a manufacturing or production process that has valves, sensors, and so on (*see e.g.*, Figs. 2A and 2B). When a predetermined threshold that relates to the operation of the automation system is reached or when a fault in the operation of the automation system occurs, the control unit generates an e-mail message and transmits it to the receiving device, which responds to this message. That is, in the exemplary, non-limiting embodiment, the e-mail message is generated in response to the operation of the automation system by the control unit. Accordingly, unlike the conventional techniques where separate monitoring systems are provided (*see* page 1, lines 14 to 16 of the specification), no additional, separate monitoring systems are required. It will be appreciated

that the foregoing remarks relate to the invention in a general sense, the remarks are not necessarily limitative of any claims and are intended only to help the Examiner better understand the distinguishing aspects of the claims mentioned above.

Frantz discloses an interface device that is either integral or peripheral to equipment that requires monitoring and maintenance. The equipment may be a PBX or ACD, but may also include any type of equipment that requires monitoring and/or maintenance. In Frantz, the interface device converts the output from the equipment to e-mail messages that are sent to the technician at a remote location, and converts e-mail instructions from the technician that are received at the interface device to ASCII terminal keystrokes that the PBX receives and understands. The interface can broadcast multiple error messages to multiple recipients. The interface device allows multiple technicians simultaneous access to the equipment (*see* Abstract and col. 2, lines 40 to 60).

Specifically, Frantz discloses an interface device, which could be integral or attached to the equipment. The equipment may be a PBX or ACD, but may also include any type of equipment that requires monitoring and/or maintenance. These types of equipment may include, but are not limited by the following: other telecommunications apparatus, a security/alarm system, a safety system that monitors detectors for fire, carbon monoxide, radon, poison gases, and/or water leakage, a vending machine that monitors the number of products and their expiration dates, a photocopier that monitors the amount of toner and paper, a home-type appliance such as a refrigerator or washing machine, a weather alert system, a lighting system, a

computer, a printer, a vehicle, a personal monitoring system that monitors the health and/or location of a person and a building environmental control system (col. 2, lines 15 to 30).

In other words, Frantz is no different from the conventional techniques. Frantz requires an interface for each equipment device that is integrated or attached to the equipment device. That is, Frantz is not different from the conventional techniques that require a separate monitoring program for each of the equipment units. Frantz fails to disclose or suggest a control unit that monitors and controls operation of the automation system. In Frantz, the interface simply receives all messages from the equipment unit and based on preset criteria, converts and transmits the message to a particular destination (col. 4, line 56 to col. 5, line 65). There is no disclosure or suggestion in Frantz that this interface controls the automation process. As disclosed in Frantz, a special card is inserted to monitor operations of the equipment unit (col. 6, lines 21 to 30). Clearly then, Frantz does not disclose or suggest a control unit that controls the equipment. Furthermore, in Frantz, it is the equipment unit that is being monitored and not the automation system. Frantz does not disclose or suggest an automation system that comprises equipment of a production or a manufacturing process.

Therefore, “wherein the control unit monitors and controls operation of the automation system and in response to a fault detected in the automation system, generates the e-mail message, and wherein the automation system comprises equipment of a production or a manufacturing process,” as set forth in claims 1, 5, 8, and 33 is not disclosed by the combined disclosure of Naugle and Frantz, which lack a control unit that both monitors and controls the operation of the automation system, which comprises equipment of a production or a

manufacturing process. For at least these exemplary reasons, claims 1, 5, 8, and 33 are patentable over Naugle in view of Frantz. It is appropriate for the Examiner to withdraw this rejection of claims 1, 5, 8, and 33 and such action is respectfully requested. Claims 2-4, 7, 27-32, 34, and 35 are patentable at least by virtue of their dependency.

Independent claim 33 further recites: “wherein the method is used to generate a fault and/or alarm message of a stored-program control unit, a numerical control unit and/or a robot control unit in connection with an automation system.” The Examiner acknowledges that Naugle does disclose or suggest the above-quoted unique features of claim 33. The Examiner, however, alleges that Frantz cures the above-noted deficiency of Naugle (*see* page 8 of the Office Action). Applicant respectfully submits that Frantz discloses an equipment unit that is being monitored and an interface unit, as explained in greater detail above. In Frantz, however, there is no disclosure or suggestion of the interface unit being a stored program control unit, a numerical control unit, and/or a robot control unit. For at least these additional exemplary reasons, claim 33 is patentable over Naugle in view of Frantz.

In addition, dependent claim 2 recites: “the control unit further comprising means to compare the acknowledgment identification contained in acknowledgment with the message identification contained in the transmitted message” and dependent claim 3 recites: “wherein the control unit further comprises means for marking the message as acknowledged if the means to compare determines that the control unit has received an acknowledgment with the message identification assigned to the associated transmitted message.” The Examiner simply alleges that the status message depicted in col. 4, line 38 to col. 5, line 22 of Naugle somehow discloses the

compare means of the control unit and the marking of the message (*see* page 5 of the Office Action). Applicant respectfully disagrees. Applicant respectfully submits that Naugle does not disclose or suggest the monitoring computer (alleged control unit) comparing an identifier of the acknowledgement message sent in response to the generated e-mail message with the identifier of the generated e-mail message and marking the sent message. The status message disclosed on col. 4, line 38 to col. 5, line 22 of Naugle clearly does not disclose or suggest comparing means and the marking of the message. In short, Naugle does not disclose or suggest the unique features of claims 2 and 3. Frantz does not cure the above-identified deficiencies of Naugle. For at least these additional exemplary reasons, claims 2 and 3 are patentable over Naugle in view of Frantz.

V. Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly invited to contact the undersigned attorney at the telephone number listed below.

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The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,

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